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```

Droso_MannII_[X] 1
C.elegans_Manni 1
rMannII_[XM_218 1
hMannIIz_D55649 1
Mouse_MannII_[X 1
hMannII 1
CionaMannII_[AR 1
ArabMannII 1
Insect_MannIII 1
hLyso_MannII 1
hCyto_MannII_[N 1

Droso_MannII_[X] 1
C.elegans_Manni 1
rMannII_[XM_218 61
hMannIIz_D55649 1
Mouse_MannII_[X 1
hMannII 1
CionaMannII_[AR 1
ArabMannII 1
Insect_MannIII 1
hLyso_MannII 1
hCyto_MannII_[N 1

Droso_MannII_[X] 40
C.elegans_Manni 37
rMannII_[XM_218 120
hMannIIz_D55649 46
Mouse_MannII_[X 47
hMannII 45
CionaMannII_[AR 67
ArabMannII 37
Insect_MannIII 28
hLyso_MannII 1
hCyto_MannII_[N 34

Droso_MannII_[X] 77
C.elegans_Manni 77
rMannII_[XM_218 166
hMannIIz_D55649 92
Mouse_MannII_[X 93
hMannII 93
CionaMannII_[AR 94
ArabMannII 83
Insect_MannIII 63
hLyso_MannII 13
hCyto_MannII_[N 71

Droso_MannII_[X] 122
C.elegans_Manni 157
rMannII_[XM_218 219
hMannIIz_D55649 145
Mouse_MannII_[X 144
hMannII 145
CionaMannII_[AR 147
ArabMannII 132
Insect_MannIII 101
hLyso_MannII 48
hCyto_MannII_[N 107

Droso_MannII_[X] 162
C.elegans_Manni 197
rMannII_[XM_218 277
hMannIIz_D55649 184
Mouse_MannII_[X 183
hMannII 184
CionaMannII_[AR 176
ArabMannII 171
Insect_MannIII 162
hLyso_MannII 80
hCyto_MannII_[N 146

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FIG. 23 CONTINUED

Drosophila, C. elegans, mouse, Arabidopsis, Insect, hlyso, bCyto

214 249 232 236 235 236 238 223 194 140 198

Drosophila, C. elegans, mouse, Arabidopsis, Insect, hlyso, bCyto

270 307 375 292 291 292 294 279 250 198 257

Drosophila, C. elegans, mouse, Arabidopsis, Insect, hlyso, bCyto

330 367 435 352 351 352 354 339 309 252 313

Drosophila, C. elegans, mouse, Arabidopsis, Insect, hlyso, bCyto

399 426 494 411 410 411 413 399 366 503 373

Drosophila, C. elegans, mouse, Arabidopsis, Insect, hlyso, bCyto

448 485 553 469 470 472 458 426 361 433

Drosophila, C. elegans, mouse, Arabidopsis, Insect, hlyso, bCyto

492 529 601 518 517 518 515 514 470 401 474

Drosophila, C. elegans, mouse, Arabidopsis, Insect, hlyso, bCyto

537 578 655 572 571 572 569 567 530 448 523

Drosophila, C. elegans, mouse, Arabidopsis, Insect, hlyso, bCyto

594 628

FIG. 23 CONTINUED

rMannII_XM_218	715	GSQST	HPSAALVPAASASA	LPQR-AP	PPV	PPPL	CRIS	V	IVESPR	RV	SEE					
hMannIIx_D55649	630	LSHDA	P-----	ERTV	QLDS-SP	PPV	PPPL	CRIS	V	IVESPR	RV	SEE				
Mouse_MannII_[X	629	SSQDS	P-----	QRKI	QLSAQEP	Y	V	PPF	CRBS	V	IVESATGV	SDS				
hMannII	630	SSQDS	P-----	QRNI	RLSA-EP	Y	V	PPPL	CRIS	V	IVESPT	CV	SAS			
CionaMannII_[AR	626	QEQPAP	-----	VVVV	PTKHEHA	RVV	Q	SSL	YRTG	VR	IVTSPD	V	SEN			
ArabMannII	627	YDARP	RRP-----	-----	AAREGSETV	PPS	OTRE	V	VUTRAZ	SV	DSN					
Insect_MannIII	590	PRR-----	-----	QVSPIDR	RV	PP	PAET	TE	V	RSE	SE	RVYDTH				
hLyso_MannII	508	R-----	-----	FOV	PPIGREVW	VR	PP	SEGVV	VADPN							
hCyto_MannII_[H	583	-----	-----	SCIQVAREA	CR	ED	RSEGT	-----	AAAAALCAGEPGPR							
Droso_MannII_[X	648	N-PPV	EAQ	PPV	PPHDTL	ERTIR	PGSTTR	PP	PP	GLATV	PP	IS-DSKPE				
C.elegans_MannI	674	P-PIKK	CO	SEVI	AYD	REKTL	VVRNG	-----	I	CEMI	GP	HSVS	R	VKE-TTTER		
rMannII_XM_218	774	C-OP	SVQ	SVQ	SATH	MVPD	-----	V	C	SVPR	PP	ALGL	VLC	OPDLG	PYT	
hMannIIx_D55649	680	C-OP	SAVO	SAB	SATE	AVPD	-----	V	C	SVPR	PP	ALGL	VLC	OLGLD	GHR	
Mouse_MannII_[X	680	C-PP	VEVO	SAV	NDMT	ISQA	-----	A	SEIAR	PP	GLAV	R	LESQ	SSSR		
hMannII	680	C-PP	VEVO	SAV	DTANT	ISRT	-----	A	SEIAR	PP	GLAV	R	LESQ	SSSR		
CionaMannII_[AR	677	K-PP	VS	SP	PI	ND	STRIRD	-----	C	VELES	PP	GLAV	R	LESQ	SSSR	
ArabMannII	676	W-TC	VP	SP	SEV	CHDD	TELTG	-----	RRR	Y	NA	PP	ALGL	TRTP	AGHEV	CEK
Insect_MannIII	633	KRRRVLY	Q	PP	SI	IQDNG	ES	IVS	-----	DTT	PP	GLAV	R	LESQ	SSSR	
hLyso_MannII	541	C-RT	VP	SD	V	PP	SD	QAPD	-----	PP	GLAV	R	LESQ	SSSR		
hCyto_MannII_[H	623	C-L	IV	PP	PP	PP	PP	PP	PP	PP	PP	PP	PP	PP	PP	PP
Droso_MannII_[X	706	HTSY	ASHLL	RRNPT	SLP	PG	PP	PP	PP	PP	PP	PP	PP	PP	PP	PP
C.elegans_MannI	728	VEIT	THNA	AP	PRETS	PKSST	SGDPT	PP	PP	PP	PP	PP	PP	PP	PP	PP
rMannII_XM_218	824	LOES	VHVY	LEGV	LEVS	ROTP	PP	PP	PP	PP	PP	PP	PP	PP	PP	PP
hMannIIx_D55649	730	LPSS	VRIY	LEGV	LEVS	ROTP	PP	PP	PP	PP	PP	PP	PP	PP	PP	PP
Mouse_MannII_[X	730	LADY	VLYE	HD	-----	GLAENG	PP	PP	PP	PP	PP	PP	PP	PP	PP	PP
hMannII	730	LADY	VLYE	HD	-----	GLAENG	PP	PP	PP	PP	PP	PP	PP	PP	PP	PP
CionaMannII_[AR	727	TRST	VVF	IF	PP	RGV	SKRT	TR	PP	PP	PP	PP	PP	PP	PP	PP
ArabMannII	727	ATP	SKLY	ASE	PP	PP	PP	PP	PP	PP	PP	PP	PP	PP	PP	PP
Insect_MannIII	688	CVI	YCH	PP	-----	CRQY	Q	PP	PP	PP	PP	PP	PP	PP	PP	PP
hLyso_MannII	589	ARAP	QPP	-----	PP	PP	PP	PP	PP	PP	PP	PP	PP	PP	PP	PP
hCyto_MannII_[H	674	QQ	-----	PP	PP	PP	PP	PP	PP	PP	PP	PP	PP	PP	PP	PP
Droso_MannII_[X	763	TC	SP	PP	PP	PP	PP	PP	PP	PP	PP	PP	PP	PP	PP	PP
C.elegans_MannI	785	NSP	IF	Y	GA	RS	RRR	PP	PP	PP	PP	PP	PP	PP	PP	PP
rMannII_XM_218	881	V	PP	PP	PP	PP	PP	PP	PP	PP	PP	PP	PP	PP	PP	PP
hMannIIx_D55649	787	V	PP	PP	PP	PP	PP	PP	PP	PP	PP	PP	PP	PP	PP	PP
Mouse_MannII_[X	782	K	PP	PP	PP	PP	PP	PP	PP	PP	PP	PP	PP	PP	PP	PP
hMannII	781	K	PP	PP	PP	PP	PP	PP	PP	PP	PP	PP	PP	PP	PP	PP
CionaMannII_[AR	782	V	PP	PP	PP	PP	PP	PP	PP	PP	PP	PP	PP	PP	PP	PP
ArabMannII	781	REGS	-ETV	GE	IG	MS	P-----	ES	PP	PP	PP	PP	PP	PP	PP	PP
Insect_MannIII	738	K	PP	PP	PP	PP	PP	PP	PP	PP	PP	PP	PP	PP	PP	PP
hLyso_MannII	628	M	PP	PP	PP	PP	PP	PP	PP	PP	PP	PP	PP	PP	PP	PP
hCyto_MannII_[H	714	R	PP	PP	PP	PP	PP	PP	PP	PP	PP	PP	PP	PP	PP	PP
Droso_MannII_[X	808	N	PP	PP	PP	PP	PP	PP	PP	PP	PP	PP	PP	PP	PP	PP
C.elegans_MannI	830	N	PP	PP	PP	PP	PP	PP	PP	PP	PP	PP	PP	PP	PP	PP
rMannII_XM_218	927	R	PP	PP	PP	PP	PP	PP	PP	PP	PP	PP	PP	PP	PP	PP
hMannIIx_D55649	833	C	PP	PP	PP	PP	PP	PP	PP	PP	PP	PP	PP	PP	PP	PP
Mouse_MannII_[X	828	R	PP	PP	PP	PP	PP	PP	PP	PP	PP	PP	PP	PP	PP	PP
hMannII	827	R	PP	PP	PP	PP	PP	PP	PP	PP	PP	PP	PP	PP	PP	PP
CionaMannII_[AR	829	R	PP	PP	PP	PP	PP	PP	PP	PP	PP	PP	PP	PP	PP	PP
ArabMannII	821	V	PP	PP	PP	PP	PP	PP	PP	PP	PP	PP	PP	PP	PP	PP
Insect_MannIII	792	I	PP	PP	PP	PP	PP	PP	PP	PP	PP	PP	PP	PP	PP	PP
hLyso_MannII	678	H	PP	PP	PP	PP	PP	PP	PP	PP	PP	PP	PP	PP	PP	PP
hCyto_MannII_[H	759	A	PP	PP	PP	PP	PP	PP	PP	PP	PP	PP	PP	PP	PP	PP
Droso_MannII_[X	852	E	PP	PP	PP	PP	PP	PP	PP	PP	PP	PP	PP	PP	PP	PP
C.elegans_MannI	879	E	PP	PP	PP	PP	PP	PP	PP	PP	PP	PP	PP	PP	PP	PP
rMannII_XM_218	977	E	PP	PP	PP	PP	PP	PP	PP	PP	PP	PP	PP	PP	PP	PP
hMannIIx_D55649	874	W	PP	PP	PP	PP	PP	PP	PP	PP	PP	PP	PP	PP	PP	PP
Mouse_MannII_[X	878	E	PP	PP	PP	PP	PP	PP	PP	PP	PP	PP	PP	PP	PP	PP
hMannII	877	E	PP	PP	PP	PP	PP	PP	PP	PP	PP	PP	PP	PP	PP	PP
CionaMannII_[AR	882	E	PP	PP	PP	PP	PP	PP	PP	PP	PP	PP	PP	PP	PP	PP
ArabMannII	880	E	PP	PP	PP	PP	PP	PP	PP	PP	PP	PP	PP	PP	PP	PP
Insect_MannIII	846	E	PP	PP	PP	PP	PP	PP	PP	PP	PP	PP	PP	PP	PP	PP
hLyso_MannII	727	E	PP	PP	PP	PP	PP	PP	PP	PP	PP	PP	PP	PP	PP	PP
hCyto_MannII_[H	814	E	PP	PP	PP	PP	PP	PP	PP	PP	PP	PP	PP	PP	PP	PP
Droso_MannII_[X	902	N	PP	PP	PP	PP	PP	PP	PP	PP	PP	PP	PP	PP	PP	PP
C.elegans_MannI	929	N	PP	PP	PP	PP	PP	PP	PP	PP	PP	PP	PP	PP	PP	PP
rMannII_XM_218	1027	N	PP	PP	PP	PP	PP	PP	PP	PP	PP	PP	PP	PP	PP	PP
hMannIIx_D55649	922	N	PP	PP	PP	PP	PP	PP	PP	PP	PP	PP	PP	PP	PP	PP
Mouse_MannII_[X	928	N	PP	PP	PP	PP	PP	PP	PP	PP	PP	PP	PP	PP	PP	PP
hMannII	927	N	PP	PP	PP	PP	PP	PP	PP	PP	PP	PP	PP	PP	PP	PP
CionaMannII_[AR	932	N	PP	PP	PP	PP	PP	PP	PP	PP	PP	PP	PP	PP	PP	PP
ArabMannII	930	N	PP	PP	PP	PP	PP	PP	PP	PP	PP	PP	PP	PP	PP	PP
Insect_MannIII	898	N	PP	PP	PP	PP	PP	PP	PP	PP	PP	PP	PP	PP	PP	PP
hLyso_MannII	785	N	PP	PP	PP	PP	PP	PP	PP	PP	PP	PP	PP	PP	PP	PP
hCyto_MannII_[H	858	L	PP	PP	PP	PP	PP	PP	PP	PP	PP	PP	PP	PP	PP	PP
Droso_MannII_[X	960	E	PP	PP	PP	PP	PP	PP	PP	PP	PP	PP	PP	PP	PP	PP
C.elegans_MannI	987	E	PP	PP	PP	PP	PP	PP	PP	PP	PP	PP	PP	PP	PP	PP
rMannII_XM_218	1085	E	PP	PP	PP	PP	PP	PP	PP	PP	PP	PP	PP	PP	PP	PP
hMannIIx_D55649	980	E	PP	PP	PP	PP	PP	PP	PP	PP	PP	PP	PP	PP	PP	PP

FIG. 23 CONTINUED

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Mouse_MannII_[X 986 E R A H M E E E R R ----- S P V S L P S L S E T S S F I N B E F P V S G
bMannII 985 E R A H T E E E R R ----- S V S L P S L S E T S S I N B E F P A H
CionaMannII_[AR 990 E R A A A R S K S S ----- A K L A P S S A V Y O S S W E I L R P R P S W G
ArabMannII 989 E S E I S Q A D P A S N T ----- H P R E P S L S E I G A R D N Y P H T F I A K
Insect_ManIII 956 E S S P G T R A K R D T S E P G F K F V H E R R P G P Q L R S P Y Q V P S O T A D Y I S R M F R Y E V Y I L D T
hLyso_MannII 943 V L I D T A Q A A A A G H R ----- L A R Q E L A E C V A P D G G
hCyto_MannII_[W 916 Q D A G V Q A A Y S L N ----- P L I A L P A P S P A P A T S W S A F S S S

Droso_MannII_[X 1000 E W I G A Q G Q ----- P G D E S A R E D D S V R R L T K S -----
C.elegans_MannI 1027 T P L S I S E K E ----- E C R D C D H P T F R A S P T T Y -----
rMannII_[XM_218 1126 R R S T S P T E ----- S R P I A S P L C I P E I L L R M P A E V S V P V R A N P R E Q A E P C L L G R H A A D
hMannIIa_D55649 1020 M Q L P G P G R ----- S R P I A S S L P C I P E I L L R M Q A E E -----
Mouse_MannII_[X 1027 Q L P S P A F E L L S E P L I O S S L P C D E L M L R Q S I N G -----
bMannII 1023 X P S S P T E L O G E S P I O S S L P C D E L M L R Q S K V G -----
CionaMannII_[AR 1032 ----- P H L K E D R S L P Q P L P C D E L M L R A H S R D A -----
ArabMannII 1029 P Q D I S V R P Q Y G S P A P I A X P L P C D E R P V P R P S K Y S -----
Insect_ManIII 1016 S E V G E I E X P ----- Q S F L O S P P G E L T U R Q D D V L E -----
hLyso_MannII 875 G A A Y N L G A P P R T Q S G P R E D E P S E H I T L A W G P E M V I L R -----
hCyto_MannII_[W 953 P A V V L E T I ----- Q A R S S P O R R S V L R Y E A R -----

Droso_MannII_[X 1032 ----- S A K T O R V Y E R T F L M C C T P E R B T O K I D V C H I L P F V A R C H E R T T Y F L
C.elegans_MannI 1059 E A H E R S T F E I K A A N V M H R V P D C R S R L I L P D T S C L A T G L E I E P E I L
rMannII_[XM_218 1183 P P F L L S L T V Q D T I P A A D A T L H R R C C C E A E G F E C T O G K L A L G S L F R G D E L
hMannIIa_D55649 1054 D T I P A E T A L H R R C C C E A E G F E C T O G K V A L G S L F R G D E V
Mouse_MannII_[X 1064 E G Y D E A L H R R C C C O P S S G C I P C T O G K M S V L K L P R F A E
bMannII 1060 E G B E E A L H R R C C C O P S S G T G L F C T O G K I L V O L L L H R P I E
CionaMannII_[AR 1064 ----- V A P D Q S A L H R V C R C S D A D R Y P E P T C L M E G V E R L A I T I S T P T M
ArabMannII 1068 Q Q L R E D E P R P A L H R R A S Y C H G R O V E C S M A H R P V E T S D M F R D L A A
Insect_ManIII 1052 L F P E S Y V L H R P C S A G E P A R S P P S K T R F E G L E I C E T A V
hLyso_MannII 916 L E R Q F A V E H D S G R L S A P V T H I L D V S T F I I R L Q E T T L V A N C L R E A A
hCyto_MannII_[W 981 ----- G R V D C E R L S L P V Q E L C D L E R P D P A G H L T S G O P P E A H L F S P

Droso_MannII_[X 1081 Q M P E R L D G M A P E V C P M E ----- T A A Y S S S S -----
C.elegans_MannI 1107 S T P K S A R E S T W L Y E G N ----- K A R O P R O P E N I S I L S Y -----
rMannII_[XM_218 1243 F L O P S T E L Y P L A S P S ----- E S T D E T E P M E I S T R I C -----
hMannIIa_D55649 1103 F L O P S T E L Y P L A S P S ----- E S T D Y T E P M E I A R R I C -----
Mouse_MannII_[X 1112 S L V P S T E L S B S P P D A Q ----- E M S E E L S P M E I S T R I R W T -----
bMannII 1108 S L T P S T E L S B S P P G T O ----- E I S E E L S P M E I S T R I Q R -----
CionaMannII_[AR 1112 G R K S T E L O R D G S L L D ----- E O G G E L S P M E I O A V I T -----
ArabMannII 1119 S R K P S T E L O R D M E I L G Y D D Q E L P R D S S O P R E G R E L S P M E I R A E L P R R -----
Insect_ManIII 1100 S L T G L R S T P T C ----- L E D E T E A M E I T R I E Y -----
hLyso_MannII 965 S R K W E E E G P T P R O T P Y ----- Q L D P A N E T E M E I T R I L A S Q W K H V D G
hCyto_MannII_[W 1027 S A P V A R A S A S A T L E P W G ----- W G P V C R R I W G I L S A S P A -----

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Citation

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Not given, but presumably Kay Hofmann and Michael D. Baron.

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FIG. 23 CONTINUED